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ABSTRACT

This study provides comparative data describing the quality of 1,175 psychological sites currently available on the Internet. A rating scale was used to assess six dimensions of site quality including accuracy, practicality, normalization and sense of belonging, referral, and feedback mechanisms. One-way ANOVA on the six separate quality items and summary scores revealed significant differences in the quality of ratings across the different topic categories. These categories were parenting problems, health problems, common emotional disorders, and severe mental illnesses. Sites addressing the needs of parents and those with health-related concerns received higher ratings; sites targeting the "worried well" and those with personality disorders received the least strong endorsements. Sites addressing the needs of those affected by severe mental illnesses received moderate ratings. The prevalence of commercial motivation affecting sites targeting the worried well appears to have compromised the quality of many of the sites. Overall, the ratings suggest that the average quality of the current sites was not impressive. Appendixes are "The Explosion of Psychological Help on the Net: Electronic Behavioral Healthcare," the original and revised evaluation form used in the study, and evaluation descriptions. (Contains 1 table and 114 references.) (MKA)

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THE INTERNET: PLAGUE OR PANACEA

An evaluation of over 1000 behavioral healthcare sites

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Abstract

The Internet offers an entirely new means of providing psychological healthcare and access to psychological information. For mental healthcare consumers who possess the necessary cognitive and computer skills, the Internet literally opens up a world of treatment possibilities previously unimaginable. For consumers who are introverted, confined to the home, or who prioritize privacy, these remote forms of treatment and sources of information are extremely attractive. Unfortunately, the absence of regulatory measures concerning the quality of these sites could result in potentially harmful effects on the consumers' well being. This study provides comparative data describing the quality of 1,175 psychological sites currently available on the Internet. A rating scale was used to assess six dimensions of site quality including accuracy, practicality, normalization, and sense of belonging, referral and feedback mechanisms.

One-way ANOVA on the six separate quality items and summary scores revealed significant differences in the quality of ratings across the different topics categories evaluated (Parenting Problems [ADHD, Tourette's Syndrome, Common Discipline Problems, Learning Disabilities, and Teenage Pregnancy], Health Problems [Eating Disorders, Chemical Dependency, HIV/AIDS, Migraine, and Smoking Cessation], Common Emotional Disorders [Anxiety

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Disorders, Depression, and Post-Traumatic Stress Disorder], Severe Mental Illnesses [Schizophrenia, Bipolar Disorder, and Autism], and Personality Disorders [Borderline Personality Disorder and Antisocial Personality Disorder]). Sites addressing the needs of parents and those with health-related concerns consistently received higher ratings, and sites targeting the "worried well" and those with personality disorders consistently received the least strong endorsements. Sites addressing the needs of those affected by severe mental illnesses received moderate ratings on most of the items.

As previous studies have found (Morse, Doran, Simonin, Smith, Maloney, Wright, Underwood, Hoppel, O'Donnell & Chambliss, 1998; DiBlassio, Simonin, DeCarolis, Morse, Jean, Vassalotti, Franks & Chambliss, 1998; Doran, Smith, Edwards, Hamilton, Morse, Hoppel & Chambliss, 1998), the prevalence of commercial motivation affecting sites targeting the worried well seems to have compromised the quality of many of these sites. In comparison, the quality of information offered by sites developed to assist parents seemed to be less distorted by a marketing agenda.

Overall, the ratings suggested that the average quality of the current sites was not very impressive. The mean rating across problem topics for all site dimensions was 2.09 (s.d.=1.52, N=1175) on the 0-4 point scale, where 0=absent, 1=extremely inadequate, 2=somewhat inadequate, 3=somewhat adequate, and 4=outstanding.

Introduction

The Internet offers myriad opportunities to improve delivery of mental healthcare and enhance the lives of those affected by brain and behavioral disorders. The new electronic information technologies are fostering revolutions in how direct services are provided, and also facilitating optimal care indirectly, by keeping professionals more up-to-date and allowing larger-scale research on treatment effectiveness. In trying to improve the service delivery of providers while containing costs, many managed care companies offer long-distance educational opportunities via the Internet, with frequent updates reflecting new research findings. Use of the Internet can facilitate therapists' ability to draw upon state-of-the-art information about rarely encountered predicaments.

Innovations in direct service delivery include the development of problem-specific lists that create de facto support groups, expert-mediated Websites that offer everything from virtual milieu therapy to parenting advice and electronic individual psychotherapy with therapists a nation away. For consumers who are introverted, homebound, or for when privacy is a priority, these remote forms of treatment are extremely attractive. For those with the requisite cognitive and computer

skills and the access to appropriate equipment, the Internet literally opens up a world of treatment possibilities previously unimaginable. The result is a growing optimism among treatment professionals concerning the future possibilities for the Internet. Sampson et al., (1997) envision the future "information highway" as providing clients in remote locations with access to a variety of specialists that would otherwise be unavailable. They predict that Internet therapy will consist of a combination of counseling sessions by means of video conferencing and computer assisted instruction.

Unfortunately the use of the Internet does not only open up new possibilities; it also creates new problems. Kraut, Patterson, Landmark, Kiesler, Mukopadhyay, and Scherlis (1998) argue that this technology may inadvertently reduce social involvement and psychological well-being. Furthermore, the interaction of counselors and clients by means of electronic media presents myriad legal and ethical problems, including the obvious one of assuring confidentiality.

The American Psychological Association's Ethics Committee adopted the following statement in 1995 regarding electronically provided psychological services. "The Ethics Code is not specific with regard to telephone therapy, teleconferencing, or any electronically provided services as such, and has no rules prohibiting such services. Complaints regarding such matters are addressed on a case by case basis. The nature of the contact is an important variable, and the use of telephone for purposes such as educative information, suicide hot lines, or brief crisis contact and referral are reasonably well established. The use of telephone for the provision of regular ongoing therapy or for diagnosis is not established, nor are such services as teleconferencing, Internet, or similar methods. Standard 1.04c, Boundaries of Competence, indicates that 'In those emerging areas in which generally recognized standards for preparatory training do not yet exist, psychologists nevertheless take reasonable steps to ensure the competence of their work and to protect patients, clients, students, research participants, and others from harm.' Many of the enforceable ethical standards are, in fact, relevant to such services, and based on these standards it could be difficult for a psychologist to demonstrate that it is ethical to conduct therapy solely by telephone, teleconferencing, Internet, or similar methods...Psychologists considering such services must review the characteristics of the services and the service delivery method, and consider the relevant ethical standards and other requirements, such as licensure board rules. As an example of the possible variations, consider confidentiality in a situation in which the services involve two individuals directly exchanging confidential information. The ease with which Internet transmissions may be intercepted would be relevant, and use of encryption might be considered a sufficient action on the part of the psychologist to establish that confidential transmissions were protected."

Much of the extant literature pertaining to the Internet

within the field of psychology is descriptive in nature. The main focus of journal articles has been placed on the problems and technological limitations associated with the current Internet (e.g., Sampson et al., 1997; Allen & Kostenbader, 1995; Frisse et al., 1994) and projections about its eventual utility (e.g., Huang & Alessi, 1996; Sampson et al., 1997). The subject of the Internet as it is currently being employed has been given little attention.

In April 1996, Sampson, Kolodinsky, and Greeno (1997) sought to determine the prevalence of these resources on the Internet. Using the WebCrawler search engine they conducted a search of the word counseling. The results of this search showed the existence of 3,764 home pages containing that term. Further analysis of these pages showed that 45% of these sites pertained to psychological counseling and the rest were either not accessible or merely contained the word counseling somewhere in their text. Sampson et al. repeated this search in the same search engine only three months later and discovered that the number of home pages had grown to 4,584. That represents a 15% increase in three months. It is virtually impossible for both consumers and professionals to keep up with this rapid growth.

Regardless of this problem, the use of the Internet as a supplement to traditional methods of counseling is in many respects a worthwhile endeavor. If counseling is defined as "a learning process designed to help people learn more effective ways of coping with their emotional, social, and career problems" (Sampson & Krumboltz, 1991), then the use of the Internet as a means of disseminating information is valid.

The recent explosion of behavioral healthcare resources on the Net has left many consumers and professionals overwhelmed. The Quality of Websites and lists is very uneven; no systematic mechanism exists to evaluate the utility of a given resource efficiently. Jacobson and Cohen (1997) have discussed the importance of teaching students to evaluate the quality of Internet sites. They argue that users of sites should consider all the dimensions of accuracy, comprehensiveness, currency, availability of hyperlinks, and the website's style and functionality.

DiBlassio, et al.(1998), and Doran, et al (1998) found inconsistencies in quality across different categories of psychological sites. The current study extended this earlier work and examined the differential quality of five categories of behavioral healthcare sites on the Internet: Parenting Problems (ADHD, Tourette's Syndrome, Common Discipline problems, Learning Disabilities, and Teenage Pregnancy), Health Problems (Eating Disorders, Chemical Dependency, HIV/AIDS, Migraine, and Smoking Cessation), Common Emotional Disorders (Anxiety Disorders, Depression, and Post Traumatic Stress Disorder), Severe Mental Illnesses (Schizophrenia, Bipolar Disorder, and Autism), and Personality Disorders (Borderline Personality Disorder and Antisocial Personality Disorder).

Method

Source and researchers

Evaluations were conducted on a total of 1,175 web sites addressing the needs of five different target populations with psychological or behavioral health-related problems, including those with Parenting Problems (ADHD, Tourette's syndrome, Common Discipline Problems, Learning Disabilities, and Teenage Pregnancy), Health Problems (Eating Disorders, Chemical Dependency, HIV, Migraine, and Smoking Cessation), Common Emotional Disorders (Anxiety Disorders, Depression, and Post Traumatic Stress Disorder), Severe Mental Illnesses (Schizophrenia, Bipolar Disorder, and Autism), and Personality Disorders (Borderline Personality Disorder and Antisocial Personality Disorder). The sites were chosen randomly from various common search engines on the Internet. Eleven trained undergraduate psychology majors from a small liberal arts college on the east coast completed the evaluations. After a period of training in the psychological problem areas (the bibliography includes a sampling of the literature used to familiarize students with the various problem areas), each rater evaluated roughly 75-100 sites, pertaining to one of the five categories.

Materials

Several computers linked to the Internet served as tools for access to the Internet. A standardized evaluation form assessing 6 separate dimensions was used to record the ratings for each site along with some demographic information. Evaluators were asked to rate how well each site provided the following: 1) clear and accurate information 2) "how-to" suggestions for change: practical exercises or recommendations 3) destigmatizing information; promotion of normalization 4) promotion of a sense of belonging; information or activities to help combat loneliness 5) referral mechanisms, if users found that additional help is needed and 6) a means of outcomes assessment; a feedback mechanism to assess the effectiveness of the site.

The 1175 web sites were evaluated on the 6 dimensions using a 5-point scale ranging from zero to four. A zero indicated absent information or service, one indicated extremely inadequate information or service, two indicated somewhat inadequate, three indicated somewhat adequate, and four indicated the presence of outstandingly high quality information or service. The sites were evaluated over a period of six weeks.

Results

One-way ANOVA on the summary scores (created by totaling all 6 measures of quality and dividing by 6) revealed significant differences in quality ratings across the five target categories ($p < .001$; $F = 28.824$; $df = 4,1170$). On four of the assessment items, sites addressing the needs of parents consistently received higher ratings than other types of sites, and sites

targeting the "worried well" consistently received the least strong endorsements. Sites addressing health-related concerns received moderately high ratings on most of the items, while sites targeting the severely mentally ill were viewed as exemplary in providing feedback and referral mechanisms (relative to sites addressing other types of problems).

Additional ANOVA on the 6 separate quality items corroborated the general conclusions based on the summary measure findings (see Table 1). Across the items, site quality was consistently highest among those sites directed at an audience of concerned parents, and lowest when members of the target audience were interested in common psychological problems such as anxiety disorders and depression. The prevalence of commercial motivation affecting sites targeting the worried well seems to have compromised the quality of this category of sites. In comparison, the motivation behind many of the sites developed to assist parents seems more compassionate and less exploitative; the quality of information offered by these sites seemed to be less distorted by a marketing agenda.

Overall, the ratings suggested that the average quality of the current sites was somewhat disappointing. The mean rating across problem topics for all site dimensions was 2.09 on the 0-4 point scale where 0=absent, 1=extremely inadequate, 2=somewhat inadequate, 3=somewhat adequate, and 4=outstanding.

Discussion

Sites addressing the needs of parents in assisting their children with various behavioral problems were consistently rated more highly than those in all other categories. Development of high quality sites for parents may in part derive from high levels of empathy for those struggling to help their children. Most parents seem to be instinctively inclined to seek help for their children's; parents of those with problems are expected to go to great lengths to improve their children's well being. This contributes to a great demand for parenting information on the Internet. Apparently site developers have obliged, by creating a large number of reasonably high quality sites.

In contrast, interest in common emotional disorders (anxiety and depression) is probably more modest. As a result, fewer sites have addressed this category of concern to date. Furthermore, many of the sites targeting the "worried well" population of depressed and anxious individuals seem to have an obvious commercial agenda. Their promotion of particular books, programs, and services was perceived by raters as often corrupting the quality of service, because sites often presented biased, misleading information about specific treatment options without including an objective examination of equally efficacious alternatives. Other studies have reported similar concerns about the potential exploitation of those with common emotional disorders (Morse, et al., 1998; Doran, et al., 1998).

Although the information available on these sites varied considerably in terms of both quality and quantity, the Internet is still seen by these authors as providing many potential advantages for its users. Web sites provide information on prevalence, treatment, and detailed descriptions of symptoms characterizing specific disorders. Those suffering from various disorders easily find organized information in the privacy of their own homes. Web sites are generally used as a convenient starting point for research on particular problems. Often other Internet services, such as interactive lists are recommended as additional aides from these sites. Interactive lists provide patients with cutting edge information on treatments and current research on the disorder. In addition they are distributed globally, allowing many perspectives on the disorder to reach individuals (Allan & Kostenbader, 1995). Subscription to these lists is usually cost free and provides subscribers with the option of asking professionals questions on various issues.

Perhaps the most useful online services are the discussion groups for specific disorders. For example, through subscription to an on-line carrier, those suffering from Anxiety Disorders can receive support from their peers via computer. This service is especially helpful to those afflicted with Agoraphobia. The main symptom of this disease is a fear of being in any situation from which escape would be impossible in the event of panic attack. As a result, people who have agoraphobia are often unable to leave their home for weeks or months at a time, and seldom keep appointments with therapists. This inhibits their ability to seek treatment and support from others. On line support groups eliminate this fear while helping individuals to cope with their problems in a familiar environment.

The Internet also provides many general advantages when compared to traditional treatment methods. Embarrassment and cost of treatment are common obstacles for those individuals suffering from mental health disorders. Many people are fearful of others knowing that they suffer from what they consider to be odd symptoms. The confidentiality established through the use of a computer can greatly reduced this fear. Those individuals that are unable to receive treatment because of the high price of healthcare are also within reach of treatment, through the Internet. Many sites and groups provide information on low cost or free mental health care. In addition, the use of Internet provides access with minimal cost.

The Internet is a useful and accessible tool for providing mental health care; however, specific goals and standards for its use must be met. Managed care organizations are already investigating means for reducing costs through computerized-based medical education, and such forces will further encourage the development of networked information resources (Huang & Alessi, 1996). By anticipating the potential abuses of the Internet by the health care systems, professional associations must assure that the information highway helps rather than harms clients. Although it would be beneficial for clients to be as

knowledgeable about their disorder as their therapists, inaccurate and inappropriate information could be detrimental to the outcome of their treatment. The validity of data delivered via computer networks needs to be screened prior to patient and public exposure (Sampson, Kolodinsky & Greeno, 1997). Conversely, counselors need to be educated and trained in administering this treatment. With this advance in technology, in combination with expanding support groups and interactive lists, as well as professional therapist education and participation, cutting edge treatment for a variety of psychological problems may ultimately be accessed at the flip of a switch.

TABLE 1

		N	Mean	Std Deviation
Promote Belonging	Parenting	325	2.32	1.39
	Health	310	2.21	1.90
	Anxiety & Depression	207	1.43	1.43
	Severe Mental Illness	125	1.87	1.66
	Personality Disorder	208	1.41	1.59
	Total	1175	1.93	1.65
Feedback Mechanisms	Parenting	325	1.43	1.56
	Health	310	2.11	1.56
	Anxiety & Depression	207	1.08	1.18
	Severe Mental Illness	125	2.50	1.56
	Personality Disorder	208	1.68	1.68
	Total	1175	1.71	1.59
Practical Suggestions for Change	Parenting	325	2.37	1.39
	Health	310	2.18	1.59
	Anxiety & Depression	207	0.99	1.18
	Severe Mental Illness	125	1.27	1.53
	Personality Disorder	208	1.77	1.50
	Total	1175	1.85	1.53
Clear and Adequate Information	Parenting	325	3.11	1.08
	Health	310	3.09	1.21
	Anxiety & Depression	207	2.13	1.27
	Severe Mental Illness	125	2.91	1.33
	Personality Disorder	208	2.67	1.36
	Total	1175	2.83	1.28
Promote Normalization	Parenting	325	2.43	1.29
	Health	310	1.88	1.80
	Anxiety & Depression	207	1.52	1.28
	Severe Mental Illness	125	2.11	1.54
	Personality Disorder	208	1.60	1.53
	Total	1175	1.95	1.54
Referral Mechanisms	Parenting	325	2.44	1.50
	Health	310	2.37	1.55
	Anxiety & Depression	207	1.81	1.35
	Severe Mental Illness	125	2.88	1.38
	Personality Disorder	208	2.21	1.59
	Total	1175	2.32	1.52

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Promote Belonging	Between Groups	180.816	4	45.204	17.452	.000
	Within Groups	3030.593	1170	2.590		
	Total	3211.409	1174			
Feedback Mechanisms	Between Groups	236.121	4	59.030	25.437	.000
	Within Groups	2715.168	1170	2.321		
	Total	2951.289	1174			
Pratical Suggestions for Change	Between Groups	317.219	4	79.305	38.002	.000
	Within Groups	2441.603	1170	2.087		
	Total	2758.822	1174			
Clear and Adequate Information	Between Groups	154.249	4	38.562	25.649	.000
	Within Groups	1759.057	1170	1.503		
	Total	1913.306	1174			
Promote Normalization	Between Groups	144.011	4	36.003	15.886	.000
	Within Groups	2651.611	1170	2.266		
	Total	2795.622	1174			
Referral Mechanisms	Between Groups	101.789	4	25.447	11.414	.000
	Within Groups	2608.437	1170	2.229		
	Total	2710.226	1174			

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Appendix A

The Explosion of Psychological Help on the Net
Electronic Behavioral Healthcare

I. Information regarding treatment and research cutting edge, state of the art, expert information for consumers, breaking down the barriers between consumers and experts; NAMI

Opportunities for "passive" learning
A. Web sites
B. Listserv groups
C. Electronic Journals

II. Interactive electronic treatment

Opportunities for "active" learning
A. Support groups
B. Expert-mediated groups

III. Referral to in vivo Psychotherapy

IV. Outcome Evaluation: Follow up mechanisms & tracking usage

A. What is lost without face-to-face contact?
B. What is lost without continuity of a real relationship?

V. Issues

A. Privacy
B. Accessibility
C. Potential for abuse, exploitation

VI. Model of Ideal Electronic Resources

A. Clear & accurate information
B. How to-suggestions for change; practical exercises
C. Destigmatizing information; promotion of normalization
D. Promote sense of belonging; combat loneliness
E. Referral mechanism-if additional help is needed
F. Outcomes assessment; feedback mechanism

Appendix B

Original Evaluation Form

Rater_____
Resource_____
Evaluation of Electronic Helping Resources

Use the 5-point scale described below to evaluate the resource on each of the following dimensions.

0=absent
1=extremely inadequate
2=somewhat inadequate
3=somewhat adequate
4=outstanding

_____ A. Clear & accurate information
_____ B. How to-suggestions for change; practical exercises
_____ C. Destigmatizing information; promotion of normalization
_____ D. Promote sense of belonging; combat loneliness
_____ E. Referral mechanism-if additional help is needed
_____ F. Outcomes assessment; feedback mechanism

Appendix C

Revised Evaluation Form

Evaluation Sheet
Psych Help Resources (c)1998

Rater_____ Disorder_____
Site Name_____
Site
Address_____

Type of Site: General Disorder Class Specific Disorder Specific Other

Site Motive: Informative Provide Help Commercial Other

Use a four-point scale to evaluate the resource on each of the following dimensions.

0 Absent
1 Extremely Inadequate
2 Somewhat Inadequate
3 Somewhat Adequate
4 Outstanding

_____Clear and Adequate Information
_____Practical Suggestions for change
_____Destigmatizing Information; Promotion of Normalization
_____Promote sense of Belonging; Combat Loneliness
_____Referral Mechanisms
_____Outcomes Assessment; Feedback Mechanisms

Appendix D

Evaluation Descriptions

1. Type of Site: example: General = "mental health site", Disorder Class Specific = "chemical dependency", Disorder Specific = "alcoholism", Other = written explanation.

2. Site Motive: Informative = purely passing on information, Provide Help = suggestions for change, self- help, Commercial = goal to obtain profit, Other = written description.

3. Clear and Adequate Information = Page is well written and easy to follow, no apparent gaps in information.

4. Practical Suggestions for Change = How to's,

5. Destigmatizing information; Promotion of Normalization = Personal accounts, success stories, inspiration.

6. Promote sense of belonging, combat loneliness = chat lines, on-line support groups, and immediate access to others.

7. Referral Mechanisms = contacts to community groups, and other Internet sites (non-interactive) Non cyber referrals.

8. Outcomes Assessment; Feedback Mechanisms = counseling via the Internet only (e-mail or one on one chats with some one in a counseling position) Users access to information on own recovery rates.